Alpha Magnetics, S.O._____
Revision_____
Date_____

ALPHA MAGNETICS, INC.

KTeV ANALYSIS MAGNET TRAVELER FOR THE DOUBLE COIL LAYER

UPPER DOUBLE COIL LAYER 3832.252-ME-267030
13/14 LOWER DOUBLE COIL LAYER 3832.252-ME-267044

Prepared by Don Klein/Dennis Klein

Alpha Magnetics, S.O._____
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Date_____

Check applicable drawing below, insure that the drawing is legible.

_____Upper Double Coil Layer 3832.252-ME-267030

__V__Lower Double Coil Layer 3832.252-ME-267044

Double coil layer made from single inlet layer No. 13
and single outlet layer No. 14.

1.0 General Notes

1.1 White (lint free) gloves or surgical latex gloves shall be worn by all personnel when handling all product parts after the parts have been prepared/cleaned.

1.2 All steps that require a sign-off shall include the Technician/Inspector's first initial and full last name. All entries in the Traveler are to be in black ink.

1.3 No erasures or white-out will be permitted to any documentation. All incorrectly entered data shall be corrected by placing a single line through the error, initial and date the error before adding the correct data.

1.4 Any and all data, signatures or written notes shall be eligible by others.

1.5 Half lap - 40% to 50% coverage (overlap)

1.6 If damage or a deviation from the specifications are found, a Discrepancy Report Form must be completed and attached behind the page in which the discrepancy occurred before production can proceed. All Discrepancy Reports issued shall be recorded in the left margin next to the applicable step.

1.7 If coil is not being worked on it shall be protected from the elements and dust by wrapping it in an ant-static sheeting (such as Herculite).

1.8 Attach to the appropriate traveler any requests for a variance from previously accepted procedures and the Fermilab approval.

1.9 Attach to the traveler a copy of that portion of the coil fabrication and testing plan which is relevant to the work covered by the traveler.

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2.0 Layer Assembly

2.1 Select proper inlet and outlet single layers. Nest single layers together and mark leads to be cut to proper length.

2.2 Cut layer pigtails to proper length and machine end in accordance with drawing 3832.252-MB-267033A.

2.3 Make certain all chips are removed from I.D. of conductor.

2.4 Deburr and degrease pigtail ends.

2.5 Record results of machining conterbore depth:

Inner layer .740
Outer layer .740
Bevel Angle 450 Degrees

2.6 Fit two layers together with ferrule in place. Measure between pigtail ends and record gap .060.
Prior to fitting two layers together, place .033" Scotchply cloth between layers per drawing 3832.252-MC-267034.

2.7 Weld butt joint per applicable drawing, and approved welding procedure.

3.0 Double Layer Testing

3.1 Water Test - Flow Rate

Flush double layer with clean domestic water for 10 minutes. Apply minimum of 30 PSIG (60 PSIG preferred).

Record:
Pressure 35
Flow Rate 2,60 GPM
Water Temp 60 Degrees F

NOTE: See attached chart (Fig. I) for acceptable flow rate.

3.2 Water Test - Hydrostatic

Fill circuit with water and pressurize to 375 + 25/-0 PSIG. Isolate from pressure. No drop in pressure shall occur within a 30 minute period.

Record:
Pressure 400 PSIG
Results Good

[signature] 9-27-94
Test Technician Date

[signature] 9-27-94
QC/QA Inspector Date

FERMILAB
ENGINEERING NOTE

SECTION	PROJECT	SERIAL-CATEGORY	PAGE

SUBJECT: Plot of Flow rate $= 3\sqrt{\frac{P}{60}}$

NAME: R. Fast

DATE: 11/22/93

REVISION DATE:

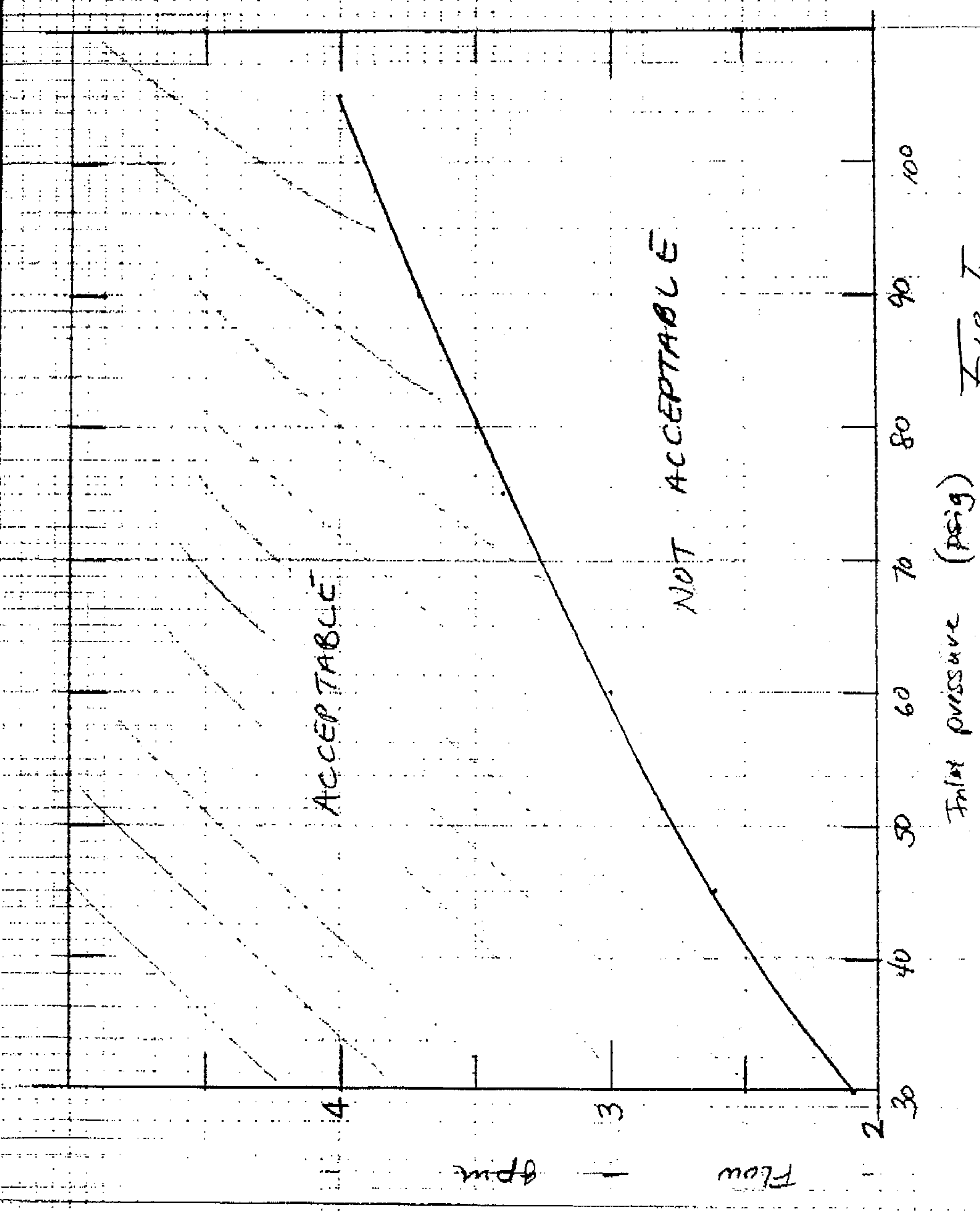

Fig I

Alpha Magnetics, S.O._____
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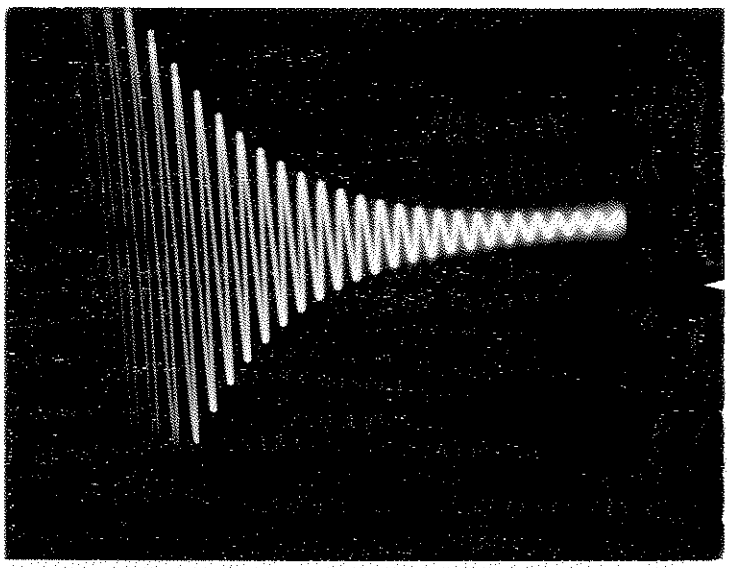
3.3 Dye Penetrant Test

Cracks longer than l/l6" shall be filed out and rewelded. Attach results.

Tested By S. Gale
Organization Alpha
Test Date 9-26-94

3.4 Perform ring test on double layer before double layer insulation procedure. Apply 80 volts across coil terminals.

Volts/Div. .1
Sweep .5



S. Gale
Test Technician

9-26-94
Date

Dennis Ha
QA/QC Inspector

9-26-94
Date

Alpha Magnetics, S.O._____
Revision_____
Date_____

4.0 Double Layer Post Electrical Test

4.1 D.C. Resistance Test

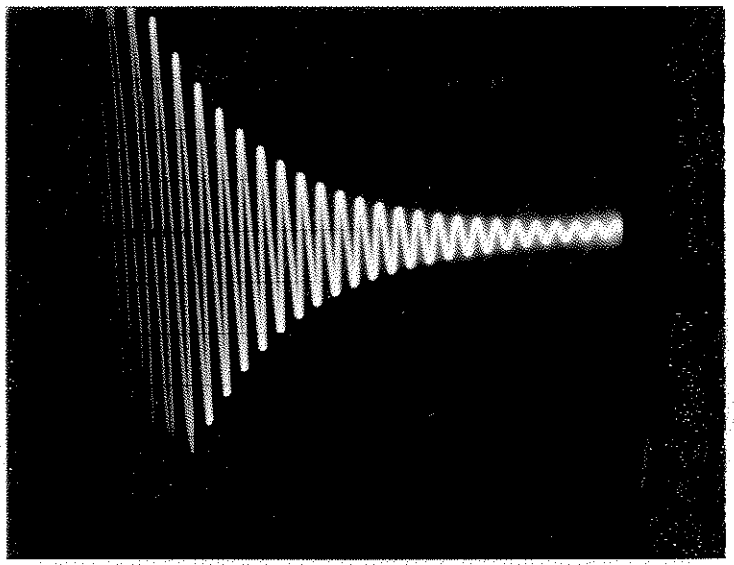
Bridge S/N or Model 1656
Resistance 1.0 mΩ
Coil Temp 70 Degrees F
Relative Humidity 60 %

4.2 D.C. Hipot Test (200 Volts D.C.)

Voltage 200 D.C.
Leakage Current .3 microAmps
Temperature 70 Degrees F
Relative Humidity 60 %

4.3 Ring Test (80 Volts D.C.)

Voltage 100 D.C.
Volts/Div. .1
Sweep Rate .5



Test Technician [signature] 7-29-94 Date

QC/QA Inspector [signature] 7-29-94 Date

Alpha Magnetics, S.O._____
Revision_____
Date_____

5.0 Double Layer Production Complete

5.1 QA/QC Inspector verify that sections 1 through 4 are accurate and complete and that all Discrepancy Reports have had disposition made.

Comments:

_____
_____
_____

_____ 10-3-94
QA/QC Inspector Date

5.2 Production Supervisor verify that section 1 through 4 are accurate and complete.

Comments:

_____
_____
_____

_____ 10-3-94
Production Manager Date

5.3 Fermilab representative verify that section 1 through 4 are accurate and complete.

_____ _____
Fermilab Representative Date